

APPENDIX B.

SURVEY QUESTIONNAIRE

SURVEY OF DOCTORATE RECIPIENTS

**CONDUCTED BY THE NATIONAL RESEARCH COUNCIL FOR
THE NATIONAL SCIENCE FOUNDATION**

We solicit this information under the authority of the National Science Foundation Act of 1950, as amended. Your response is entirely voluntary and failure to provide some or all of the requested information will not in any way adversely affect you. Actual time to complete the questionnaire may vary depending on your circumstances. On the average, it will take about 25 minutes to complete the questionnaire. If you have any comments on the time required for this survey, please send them to Herman Fleming, Division of Contracts, Policy and Oversight, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230; or to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project 3145-0020, Washington, DC 20503.

**OMB NO: 3145-0020
APPROVAL EXPIRES: 3/31/97**

INSTRUCTIONS

Thank you for taking the time to complete this questionnaire. Directions for filling it out are provided with each question. Because not all questions will apply to everyone, you may be asked to skip certain questions.

- In order to get comparable data, we will be asking you to refer to the week of April 15, 1995 (e.g., April 9-15, 1995), when answering most questions.
- Follow all "SKIP" instructions AFTER marking a box. If no "SKIP" instruction is provided, you should continue to the NEXT question.
- Either a pen or pencil may be used.
- When answering questions that require marking a box, please use an "X".
- If you need to change an answer, please make sure that your old answer is either-completely erased or clearly crossed out.

Thanks again for your help, we really appreciate it.

PART A - Employment Status
During the Week of April 15, 1995

A1. Were you working for pay (or profit) during the week of April 15, 1995? This includes a postdoctoral appointment, being self-employed or temporarily absent from a job (e.g., illness, vacation, or parental leave), even if unpaid.

1 ☐ Yes → SKIP to A 7, page 2

2 ☐ No



A2. (IF NO) Did you look for work at any time during the four weeks preceding April 15, 1995 (that is, any time between March 19 and April 15, 1995)?

1 ☐ Yes

2 ☐ No

A3. What were your reasons for not working during the week of April 15?

Mark (X) all that apply Year Retired

1 ☐ Retired → 19 _____

2 ☐ On layoff from a job

3 ☐ Student

4 ☐ Family responsibilities

5 ☐ Chronic illness or permanent disability

6 ☐ Suitable job not available

7 ☐ Did not need or want to work

8 ☐ Other - Specify →

A4. Prior to the week of April 15, 1995, when did you last work for pay (or profit)?

If never worked for pay (or profit) mark (X) in this box → ☐ and SKIP to Part D, page 13

Month

Year

LAST WORKED: _____ 19 _____

A5. What kind of work were you doing on this last job--that is, what was your occupation? Please be as specific as possible, including any area of specialization.

Example: College Professor - Electrical Engineering

A6. Using the JOB CATEGORIES LIST (pages 16-17), choose the code that BEST describes the work you were doing on this last job.

CODE

____ → SKIP to A49, page 8

A7. (IF WORKED DURING WEEK OF APRIL 15TH)
Counting *all* jobs held during the week of
April 15, 1995, did you **USUALLY** work ..

1 ☐ A total of 35 or more hours
per week → *SKIP to A10*

2 ☐ Fewer than 35 hours per week
↓

A8. (IF FEWER THAN 35 HOURS) During the week
of April 15, did you want to work a full-time
work week of 35 or more hours?

1 ☐ Yes

2 ☐ No

**A9. What were your reasons for working a part-
time work week (i.e., less than 35 hours)
the week of April 15?**

Mark (X) all that apply

Year

1 ☐ Retired or semi-retired → 19

2 ☐ Student

3 ☐ Family responsibilities

4 ☐ Chronic illness or permanent
disability

5 ☐ Suitable full-time work week
job not available

6 ☐ Did not need or want to
work full-time

7 ☐ Other - Specify ↓

*SKIP to
A11*

A10. (IF 35 OR MORE HOURS) Although you were
working during the week of April 15, had you
previously **RETIRED** from any position?

Examples of retirement include mandatory
retirement, early retirement, or voluntary retirement

1 ☐ Yes → 19 Year Retired

2 ☐ No

Please answer the next series of questions for your
PRINCIPAL job held during the week of April 15,
1995. A second job, if held, will be covered later.

**A11. Who was your principal employer during the
week of April 15, 1995?**

*IF MORE THAN ONE JOB: Record employer
for whom you worked the most hours that week*

*IF EMPLOYER HAD MORE THAN ONE
LOCATION: Record location where you usually
worked*

Employer Name

City/Town

State/Foreign Country

Zip Code

**A12. Counting all locations where this employer
operates, how many people work for your
principal employer? Your best estimate is fine.**

Mark (X) one

1 ☐ Under 10 employees

2 ☐ 10-24 employees

3 ☐ 25 to 99 employees

4 ☐ 100-499 employees

5 ☐ 500-999 employees


6 ☐ 1,000-4,999 employees

7 ☐ 5,000+ employees


A13. Was your principal employer during the week of April 15 ...

IF EMPLOYER WAS A SCHOOL: Mark (X) the type of organizational charter (e.g., mark "State government" for state schools, most private schools are "private not-for-profit")

Mark (X) one


- 1 ☐ A PRIVATE-FOR-PROFIT company, business or individual, working for wages, salary or commissions
- 2 ☐ A PRIVATE NOT-FOR-PROFIT, tax-exempt, or charitable organization
- 3 ☐ SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm
- 4 ☐ SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm
- 5 ☐ Local GOVERNMENT (city, county, etc.)
- 6 ☐ State GOVERNMENT
- 7 ☐ U.S. military service, active duty or Commissioned Corps (e.g., USPHS, NOAA)
- 8 ☐ U.S. GOVERNMENT (civilian employee)
- 9 ☐ Other - Specify 

A14. Was your principal employer an educational institution?

-  1 ☐ Yes
2 ☐ No → SKIP to A18


A15. (IF EDUCATIONAL INSTITUTION) Was this educational institution...

Mark (X) one

- 1 ☐ A preschool, elementary, or middle school or system
 - 2 ☐ A secondary school or system
 - 3 ☐ A 2-year college, junior college, or technical institute
 - 4 ☐ A 4-year college or university, other than a medical school
 - 5 ☐ A medical school (including university-affiliated hospital or medical center)
 - 6 ☐ A university-affiliated research institute
 - 7 ☐ Other - Specify 
- SKIP to A18

A16. What was your faculty rank?

Mark (X) one

- 1 ☐ Not applicable at this institution
- 2 ☐ Not applicable for my position
- 3 ☐ Professor
- 4 ☐ Associate Professor
- 5 ☐ Assistant Professor
- 6 ☐ Instructor
- 7 ☐ Lecturer
- 8 ☐ Adjunct Faculty
- 9 ☐ Other - Specify 

A17. What was your tenure status?

Mark (X) one

- 1 ☐ Not applicable: no tenure system at this institution
- 2 ☐ Not applicable: no tenure system for my position
- 3 ☐ Tenured
- 4 ☐ On tenure track but not tenured
- 5 ☐ Not on tenure track

A18. What kind of work were you doing on your principal job held during the week of April 15, 1995--that is, what was your occupation?

Please be as specific as possible, including any area of specialization.

Example: College Professor - Electrical engineering

A19. Using the JOB CATEGORIES LIST (pages 16-17), choose the code that BEST describes the work you were doing on your principal job during the week of April 15.

CODE

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A20. Did you record job code "141" (manager, executive, or administrator) in A19?

- 1 ☐ Yes
2 ☐ No → SKIP to A22

A21. (IF YES) Did your duties on this job require the technical expertise of a bachelor's degree or higher in -

Mark (X) Yes or No for each

- | | Yes
↓ | No
↓ |
|--|----------------------------|----------------------------|
| 1. Engineering, computer science, math or the natural sciences | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 2. The social sciences | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 3. Some other field (for example, health or business) - Specify ↓ | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

A22. During what month and year did you start this job (that is, your principal job held during the week of April 15, 1995)?

JOB STARTED _____ 19 _____
Month Year

A23. As of the week of April 15, were you licensed or certified in your occupation?

Do NOT include academic degrees (e.g., BA, MA, PhD)

- 1 ☐ Yes
2 ☐ No

A24. Thinking about the relationship between your work and your education, to what extent was your work on your principal job held during the week of April 15 related to your first doctoral degree awarded in the U. S.? Was it. . .

Mark (X) one

- 1 ☐ Closely related → SKIP to A27, page 5
2 ☐ Somewhat related
3 ☐ Not related

A25. (IF NOT RELATED) Did these factors influence your decision to work in an area OUTSIDE THE FIELD OF YOUR FIRST U.S. DOCTORAL DEGREE?

Mark (X) Yes or No for each

- | | Yes
↓ | No
↓ |
|--|----------------------------|----------------------------|
| 1. Pay, promotion opportunities | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 2. Working conditions (hours, equipment, working environment) | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 3. Job location | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 4. Change in career or professional interests | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 5. Family-related reasons (children, spouse's job moved) | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 6. Job in doctoral degree field not available0..... | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| 7. Other reason - Specify ↓ | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

A26. Which TWO factors in A25 represent your MOST important reasons for working in an area outside the field of your first U.S. doctoral degree? Enter number of appropriate REASONS from A25 above.

1. _____ MOST important reason
2. _____ SECOND MOST important reason (Enter "0" if no second most)

A27. The next question is about your work activities on your principal job. Which of the following work activities occupied 10 percent or more of your time during a TYPICAL work week on this job?

Mark (X) Yes or No for each

Yes No



1. Accounting, finance, contracts 1 ☐ 2 ☐
2. Applied research - study directed toward gaining scientific knowledge to meet a recognized need 1 ☐ 2 ☐
3. Basic research - study directed toward gaining scientific knowledge primarily for its own sake 1 ☐ 2 ☐
4. Computer applications, programming, systems development 1 ☐ 2 ☐
5. Development - using knowledge gained from research for the production of materials, devices 1 ☐ 2 ☐
6. Design of equipment, processes, structures, models ** 1 ☐ 2 ☐
7. Employee relations - including recruiting, personnel development, training * 1 ☐ 2 ☐
8. Managing and supervising 1 ☐ 2 ☐
9. Production, operations, maintenance (e.g., truck driving, machine tooling, auto/machine repairing) 1 ☐ 2 ☐
10. Professional services (health care, counseling, financial services, legal services, etc.) 0 1 ☐ 2 ☐
11. Sales, purchasing, marketing, customer service, public relations 1 ☐ 2 ☐
12. Quality or productivity management. 1 ☐ 2 ☐
13. Teaching * * 1 ☐ 2 ☐
14. Other - Specify 1 ☐ 2 ☐

A28. On which TWO activities in A27, did you work the MOST hours during a typical week on this job? Enter number of appropriate ACTIVITY from A27 above.

1. Activity MOST hours
2. Activity SECOND MOST hours
(Enter "0" if no second most)

A29. In A28, did you record "2" or "3" or "5" or "6" (applied/basic research or development/design)?

- 1 ☐ Yes
2 ☐ No → Skip to A31

A30. (IF YES) In what field was your research-related work being conducted?

Field: _____

A31. During a typical week on this job, in which, if any, of the following areas or technologies, were you working?

Mark (X) Yes or No for each

Yes No



1. Flexible manufacturing, robotics 1 ☐ 2 ☐
2. Advanced materials 1 ☐ 2 ☐
3. Biotechnology 1 ☐ 2 ☐
4. Micro or opto-electronics, Semiconductor devices 1 ☐ 2 ☐
5. High performance computing 1 ☐ 2 ☐
6. Software producibility 1 ☐ 2 ☐
7. Sensor and signal processing 1 ☐ 2 ☐

A32. Since April 1990, how many ...

If NONE, enter "0"

Number

1. Papers have you authored or co-authored for presentation at regional, national or international conferences? (Do not count presentations of the same work more than once)
2. Articles that you have authored or co-authored have been accepted for publication in a refereed professional journal?

A33. Since April 1990, have you been named as an inventor on any application for a U.S. patent?

- 1 ☐ Yes
2 ☐ No → SKIP to A35

A34. (IF YES) Since April 1990 ...

Number

1. How many applications for U.S. patents have named you as inventor?0... _____
2. How many U.S. patents have been granted to you as an inventor? _____
3. How many of the patents recorded as GRANTED (recorded in category 2 above) have resulted in commercialized products or processes or have been licensed?0.....* ...** _____

A35. Did you supervise the work of others as part of your principal job held during the week of April 15, 1995?

Answer "YES" if you assigned duties to workers AND recommended or initiated personnel actions such as hiring, firing, or promoting

TEACHERS: Do NOT count students

- 1 ☐ Yes
2 ☐ No → SKIP to A37

A36. (IF YES) How many people did you typically ...

IF NONE, enter "0"

Number supervised

1. supervise DIRECTLY?.. _____
2. supervise through subordinate supervisors? _____

A37. Before deductions, what was your basic ANNUAL salary on this job as of the week of April 15, 1995? (Do NOT include bonuses, overtime, or additional compensation for summertime teaching or research)

IF NOT SALARIED, please estimate your earned income, excluding business expenses.

\$ _____ .00

Basic Annual Salary/Earned Income

A38. During a typical week on this job, how many hours did you usually work?

Number of Hours Per Week _____

A39. Including paid vacation and paid sick leave, upon how many weeks per year was your salary based?

Number of Weeks Per Year _____

A40. During the week of April 15, 1995, was any of your work on this job supported by CONTRACTS OR GRANTS from the U.S. government?

FEDERAL EMPLOYEES, please answer "No"

Mark (X) one

- 1 ☐ Yes
2 ☐ No
3 ☐ Don't know → SKIP to A42, page 7

A41. (IF YES) Which Federal agencies or departments were supporting your work?

Mark (X) all that apply

- 1 ☐ Agency for International Development (AID)
- 2 ☐ Agriculture Department
- 3 ☐ Commerce Department
- 4 ☐ Defense Department (DOD)
- 5 ☐ Department of Education (include NCES, OERI, FIPSE, FIRST)
- 6 ☐ Energy Department (DOE)
- 7 ☐ Environmental Protection Agency (EPA)
- 8 ☐ Health and Human Services Department (EXCLUDING NIH)
- 9 ☐ Interior Department
- 10 ☐ National Aeronautics and Space Administration (NASA)
- 11 ☐ National Institutes of Health (NIH)
- 12 ☐ National Science Foundation (NSF)
- 13 ☐ Transportation Department (DOT)
- 14 ☐ Other - Specify _____

15 ☐ DON'T KNOW SOURCE AGENCY

The following 3 questions provide information for the U.S. Department of Energy

A42. From the following list of selected areas, indicate the **ONE** area, if any, to which you devoted the **MOST** hours during a typical week on this job.

Mark (X) one

- 1 ☐ Energy or Fuel
- 2 ☐ Environment
- 3 ☐ Food or Agriculture
- 4 ☐ Health or Safety
- 5 ☐ National Defense
- 6 ☐ Transportation
- 7 ☐ NONE OF THE ABOVE

→ SKIP to A45

A43. (IF ENERGY OR FUEL) From the following list, indicate the **ONE ENERGY SOURCE** that involved the largest proportion of your energy-related work during the past year.

Mark (X) one

- 1 ☐ Coal
- 2 ☐ Petroleum and natural gas
- 3 ☐ Nuclear fission
- 4 ☐ Nuclear fusion
- 5 ☐ Hydroenergy
- 6 ☐ Other renewables (such as solar, biomass, wind, geothermal)
- 7 ☐ Other energy source - Specify →

A44. From the following list, indicate the **ONE ENERGY-RELATED ACTIVITY** that involved the largest proportion of your energy-related work during the past year.

Mark (X) one

- 1 ☐ Exploration and extraction
- 2 ☐ Manufacture of energy-related equipment
- 3 ☐ Fuel processing (include refining and enriching)
- 4 ☐ Electric power generation and transmission
- 5 ☐ Transportation and distribution of fuel
- 6 ☐ Waste management or decommissioning
- 7 ☐ Conservation, utilization, management or storage of energy or fuel
- 8 ☐ Environment, health, and safety
- 9 ☐ Other energy-related activity - Specify →

A45. During the week of April 15, 1995, were you working for pay (or profit) at a second job (or business), including part-time, evening, or weekend work?

1 ☐ Yes

2 ☐ No → SKIP to A49, page 8

A46. (IF YES) What kind of work were you doing at your second job during the week of April 15-- that is, what was your occupation? Please be as specific as possible, including any area of specialization.

Example: College professor - Electrical engineering

IF YOU HAD MORE THAN TWO JOBS that week answer for the job where you worked the second most hours

A47. Using the JOB CATEGORIES LIST (pages 16-17) choose the code that BEST describes the work you were doing on your second job during the week of April 15.

CODE

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A48. To what extent was your work on this second job related to your first doctoral degree awarded in the U. S.? Was it -

Mark (X) one

1 ☐ Closely related

2 ☐ Somewhat related

3 ☐ Not related

Questions A49-A51 ask about your work for pay (or profit) in 1994

A49. Turning now to 1994, including paid vacation and paid sick leave, how many weeks did you work in 1994?

IF NONE, MARK (X) THIS BOX → ☐
AND SKIP TO B1

Number of Weeks Worked _____

A50. During the weeks you worked in 1994, how many hours a week did you usually work?

Number of Hours Worked _____

A51. Counting all jobs held, what was your **TOTAL EARNED income, BEFORE deductions, for 1994?**

Include all wages, salaries, bonuses, overtime, commissions, consulting fees, net income from business, summertime teaching or research, post doctoral appointment, or other work associated with scholarships.

\$ _____ .00

Total 1994 Earned Income

IF YOU HAD NO EARNED INCOME IN 1994, MARK (X) THIS BOX → ☐

PART B - Past Employment

The next few questions will help us better understand employment changes over time.

B1. Were you working for pay (or profit) during BOTH of these time periods--the week of April 15, 1993 AND the week of April 15, 1995?

If you were a STUDENT: Do NOT count financial aid awards with no work requirement.

1 ☐ Yes

2 ☐ No → SKIP to Part C, page 9

B2. (IF YES) During these two time periods--the week of April 15, 1993 and the week of April 15, 1995--were you working for. . .

Mark (X) one

1 ☐ Same employer AND same job → SKIP to Part C, page 9

2 ☐ Same employer BUT different job

3 ☐ Different employer BUT same job

4 ☐ Different employer AND different job

B3. (IF DIFFERENT) Why did you change your employer or your job?

Mark (X) Yes or No for each

	Yes ↓	No ↓
1. Pay, promotion opportunities	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2. Working conditions (hours, equipment, working environment) ..	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3. Job location	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4. Change in career or professional interests	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5. Family-related reasons (e.g., children, spouse's job moved)	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6. School-related reasons (e.g., returned to school, completed a degree)	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7. Laid off or job terminated (includes company closings, mergers, buyouts)	1 <input type="checkbox"/>	2 <input type="checkbox"/>
8. Retired	1 <input type="checkbox"/>	2 <input type="checkbox"/>
9. Other - Specify _____	1 <input type="checkbox"/>	2 <input type="checkbox"/>